

AMENDMENTS TO THE CLAIMS

Please amend the claims so that they read as follows:

1. (Currently Amended) A ~~personal care product comprising a preservative system, the preservative system comprising a synergistic mixture of:~~

- (a) (i) ~~a quaternary ammonium biocide having the formula  $N^+R^1R^2R^3R^4X^-$ ;~~
- (ii) ~~a polymeric quaternary ammonium biocide, or~~
- (iii) ~~a mixture thereof a benzethonium salt; and~~
- (b) ~~dehydroacetic acid or a salt thereof, a ketone acid or salt thereof,~~

~~wherein  $R^1$  and  $R^2$  are independently unsubstituted or hydroxy substituted linear or branched  $C_1-C_4$  alkyl,  $(CH_2CH_2O)_mCH_2CH_2OH$ , or  $(CH_2CHCH_3O)_mCH_2CHCH_3OH$  where  $m$  is 1 to 10;  $R^3$  is a substituted or unsubstituted benzyl, ethylbenzyl, methylnaphthyl, or linear or branched  $C_1-C_{22}$  alkyl;  $R^4$  is  $R^5(O)_n(C_6H_4)R^6$  where  $n$  is 0 or 1;  $R^5$  is a substituted or unsubstituted  $C_1-C_8$  alkyl or  $C_1-C_8$  alkoxyalkyl;  $R^6$  is hydrogen or a substituted or unsubstituted, linear or branched  $C_1-C_{12}$  alkyl; and  $X^-$  is an anion.~~

Claims 2-4 (canceled)

5. (Currently Amended) The ~~personal care product preservative system~~ of claim [[4]] 1, wherein the ~~benzethonium salt quaternary ammonium biocide~~ is benzethonium chloride.

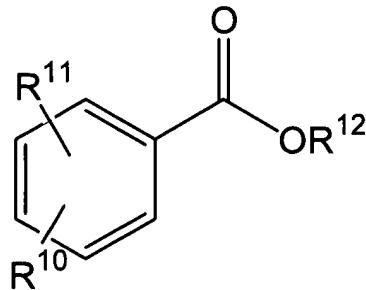
Claims 6-20 (canceled)

21. (Currently Amended) The ~~personal care product preservative system~~ of claim 18 1, wherein the dehydroacetic acid or salt thereof is encapsulated in cyclodextrin.

Claims 22-23 (canceled)

24. (Currently Amended) The ~~personal care product preservative system~~ of claim 82, wherein the aromatic carboxylic acid is benzoic acid, a derivative thereof, or a salt thereof.

25. (Currently Amended) The ~~personal care product preservative system~~ of claim 82, wherein the aromatic carboxylic acid has the formula



wherein R<sup>10</sup> and R<sup>11</sup> are independently H, -OH, or -OC(O)CH<sub>3</sub>; and R<sup>12</sup> is H, Na, K, Ca, or Mg.

26. (Currently Amended) The ~~personal care product preservative system~~ of claim 82, wherein the aromatic carboxylic acid is a hydroxy benzoic acid, derivative thereof, or salt thereof.

27. (Currently Amended) The ~~personal care product preservative system~~ of claim 26, wherein the hydroxy benzoic acid is salicylic acid or a salt thereof.

28. (Currently Amended) The ~~personal care product preservative system~~ of claim 27, wherein the salt of salicylic acid is sodium salicylate.

Claims 29-30 (canceled).

31. (Currently Amended) The ~~personal care product preservative system~~ of claim 1, further comprising a solvent.

32. (Currently Amended) The ~~personal care product preservative system~~ of claim 31, wherein the solvent is water, an alcohol, a glycol, an ester, an ether, a polyether or any combination of any of the foregoing.

33. (Currently Amended) The personal care product preservative system of claim 1, wherein the composition comprises a biocidally effective amount of the benzethonium salt quaternary ammonium biocide.

34. (Currently Amended) The personal care product preservative system of claim 1, wherein the composition comprises a fungicidally effective amount of the benzethonium salt quaternary ammonium biocide.

35. (Currently Amended) The personal care product preservative system of claim 1, wherein the weight ratio of the dehydroacetic acid or salt thereof ketone acid to the benzethonium salt quaternary ammonium biocide ranges from about 0.00056:1 to about 1990:1.

36. (Currently Amended) The personal care product preservative system of claim 35, wherein the weight ratio of the dehydroacetic acid or salt thereof ketone acid to the benzethonium salt quaternary ammonium biocide ranges from about 0.0056:1 to about 1400:1.

37. (Currently Amended) The personal care product of claim 4 51, wherein said composition comprises from about 0.00005 to about 0.5% by weight of dehydroacetic acid or salt thereof ketone acid and from about 0.00005 to about 0.45% by weight of benzethonium salt quaternary ammonium biocide, based upon 100% weight of total composition.

38. (Currently Amended) The personal care product of claim 37, wherein said composition comprises from about 0.0005 to about 0.35% by weight of dehydroacetic acid or salt thereof ketone acid and from about 0.0005 to about 0.2% by weight of benzethonium salt quaternary ammonium biocide, based upon 100% weight of total composition.

39. (Currently Amended) The personal care product preservative system of claim 82, wherein the weight ratio of the aromatic carboxylic acid to the benzethonium salt quaternary ammonium biocide ranges from about 0.00056:1 to about 1990:1.

40. (Currently Amended) The personal care product preservative system of claim 39, wherein the weight ratio of the aromatic carboxylic acid to the benzethonium salt quaternary ammonium biocide ranges from about 0.0056:1 to about 1400:1.

41. (Currently Amended) The personal care product of claim 82-83, wherein said composition comprises from about 0.00005 to about 0.5% by weight of aromatic carboxylic acid and from about 0.00005 to about 0.45% by weight of benzethonium salt quaternary ammonium biocide, based upon 100% weight of total composition.

42. (Currently Amended) The personal care product of claim 41, wherein said composition comprises from about 0.0005 to about 0.35% by weight of aromatic carboxylic acid and from about 0.0005 to about 0.2% by weight of benzethonium salt quaternary ammonium biocide, based upon 100% weight of total composition.

43. (Previously Presented) A personal care product comprising a preservative system, the preservative system comprising a synergistic mixture of:

- (a) dehydroacetic acid or a salt thereof; and
- (b) benzethonium chloride.

Claims 44-45. (Canceled)

46. (Previously Presented) A preservative system comprising a synergistic mixture of:

- (a) dehydroacetic acid or a salt thereof;
- (b) a benzethonium salt; and
- (c) salicylic acid or a salt thereof.

47. (Previously Presented) A preservative formulation comprising a synergistic mixture of:

- (a) dehydroacetic acid or a salt thereof;
- (b) a benzethonium salt;
- (c) salicylic acid or a salt thereof;

- (d) benzoic acid or a salt thereof;
- (e) phenoxyethanol; and
- (f) benzyl alcohol.

48. (Original) The preservative formulation of claim 47 comprising:

- (a) from about 5 to about 40% by weight of dehydroacetic acid;
- (b) from about 1 to about 20% by weight of benzethonium chloride;
- (c) from about 2.5 to about 20% by weight of salicylic acid;
- (d) from about 2.5 to about 20% by weight of benzoic acid;
- (e) from about 20 to about 50% by weight of phenoxyethanol; and
- (f) from about 5 to about 50% by weight of benzyl alcohol,

based upon 100% total weight of preservative formulation.

49. (Original) The preservative formulation of claim 48 comprising:

- (a) about 10% by weight of dehydroacetic acid;
- (b) about 5% by weight of benzethonium chloride;
- (c) about 10% by weight of salicylic acid;
- (d) about 10% by weight of benzoic acid;
- (e) about 35% by weight of phenoxyethanol; and
- (f) about 30% by weight of benzyl alcohol,

based upon 100% total weight of preservative formulation.

50. (Original) A composition comprising from about 0.01 to about 2% by weight of the preservative composition of claim 48.

51. (Currently Amended) A personal care product comprising a preservative system, the preservative system comprising a synergistic mixture of:

- (a) a benzethonium salt; and
- (b) dehydroacetic acid or a salt thereof, and

52. (Previously Presented) The personal care product of claim 51, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

53. (Previously Presented) The personal care product of claim 52, wherein the personal care product is a shampoo.

54. (Previously Presented) The personal care product of claim 52, wherein the personal care product is a conditioner.

55. (Previously Presented) The personal care product of claim 52, wherein the personal care product is a soap.

56. (Previously Presented) The personal care product of claim 51, comprising an anionic formulation.

Claims 57 - 61 (Canceled).

62. (Previously Presented) The personal care product of claim 43, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

63. (Currently Amended) The antimicrobial composition personal care product of claim 62, wherein the personal care product is a shampoo.

64. (Currently Amended) The antimicrobial composition personal care product of claim 62, wherein the personal care product is a conditioner.

65. (Currently Amended) The antimicrobial composition personal care product of claim 62, wherein the personal care product is a soap.

66. (Currently Amended) The antimicrobial composition personal care product of claim 43, wherein the personal care product comprises an anionic formulation.

## Claims 67-75 (Canceled)

76. (Previously Presented) The preservative system of claim 46, wherein the preservative system is incorporated into a personal care product.

77. (Previously Presented) The preservative system of claim 76, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

78. (Previously Presented) The preservative system of claim 77, wherein the personal care product is a shampoo.

79. (Previously Presented) The preservative system of claim 77, wherein the personal care product is a conditioner.

80. (Previously Presented) The preservative system of claim 77, wherein the personal care product is a soap.

81. (Previously Presented) The preservative system of claim 76, wherein the personal care product comprises an anionic formulation.

82. (Currently Amended) The personal care product preservative system of claim 1, further comprising an aromatic carboxylic acid or a salt thereof.

83. (New) The preservative system of claim 82, wherein the preservative system is incorporated into a personal care product.

84. (New) The preservative system of claim 83, wherein the personal care product is a shampoo, conditioner, cream, lotion, cosmetic, or soap.

85. (New) The preservative system of claim 83, wherein the personal care product is a shampoo.

86. (New) The preservative system of claim 83, wherein the personal care product is a conditioner.

87. (New) The preservative system of claim 83, wherein the personal care product is a soap.

88. (New) The preservative system of claim 83, wherein the personal care product comprises an anionic formulation.